



Northwest Cape York Peninsula QLD02.02.02

Regional Setting

The dominant regional processes influencing coastal geomorphology in this region are the wet tropics to humid sub-tropical climate, south-east trade winds, mega-meso tides, strong tidal currents, low to moderate south-east seas (local wind-waves), the dominantly terrigenous sediments with interrupted northerly longshore sediment transport (low-moderate), the El Nino Southern Oscillation (driving sea-level variability, tropical cyclone frequency, beach erosion/accretion cycles); and the Madden-Julian Oscillation (driving weather patterns including monsoons and tropical cyclones).

Regional hazards or processes driving large scale rapid coastal changes include: tropical cyclones, storm surges, river flooding, and variable longshore sand transport.

This compartment extends from Aurkun to Slade Point.

Justification of sensitivity

Sensitivity rating is a 3 or 2. There has been a history of progradation which may continue.

Other comments

This is primarily a sandy coast, with Holocene plains extending south of the bedrock outcrop at Vrilya Point. Shore parallel ridges can be seen across these plains, implying gradual progradation of the shoreline. There is evidence of both southwards (presumably driven by clockwise circulation in the Gulf in the summer wet season) and northwards (during winter dry season) movement of sediment, with recurved spits at either end of sandy sections of coast (i.e. at Skardon river). Dunes north of Weipa indicate onshore sand movement during several episodes in the past 12ka



(Lees et al., 1993). To the north and south of the Pennefather River estuary, there is a set of three well developed transgressive dunes which may correlate with the early to mid-Holocene sequence recorded near Weipa by Lees et al. (1993).

Confidence in sources

Low confidence: There is little evidence on which to determine contemporary processes.

Additional information (links and references)

Gillieson, D., 2005. Coastal geomorphology and historic change in the Pennefather River area, Cape York. JCU Geography Monograph Series 10, 201-213.

Lees, B.G., Hayne, M., Price, D., 1993. Marine transgression and dune initiation on western Cape York, northern Australia. Marine Geology 114, 81-89.